Pedagogy for Inclusive Education

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Summary
A number of different pedagogical approaches have been presented as being helpful for teachers working with students in inclusive learning environments. These approaches were developed in the late 20th century and were largely derived from models of special education. Many of them are still evident in classrooms around the world today. Based on approaches that appear to have been effective, a set of principles for the development and implementation of inclusive education pedagogy, as identified in the academic literature, can be discerned. These principles, however, are best viewed through a critical lens that highlights cautions for teachers engaged in inclusive teaching. Examples of inclusive approaches that align with some basic principles of inclusive pedagogy include but are not limited to Differentiated Instruction, Universal Design for Learning, and Florian and Spratt’s (2013) Inclusive Pedagogical Approach in Action framework.

Keywords: inclusive education, pedagogy, diversity, instruction, universal design for learning, differentiated instruction

Subjects: Curriculum and Pedagogy

Introduction

Inclusive education is a contested concept, with the underlying practices and meanings varying from region to region. In order to discern what inclusive education is, it is necessary to consider local conceptualizations of childhood and children’s rights, models, and structures of schooling, societal norms, and other regional conditions. This is no easy task and this lack of clarity may have led to “wiggle room” that some education jurisdictions have taken advantage of by using the language of inclusion but in reality changing little in order to promote the practice. In the words of Slee (2013, p. 896), and highlighted by Deppeler, Loreman, and Smith (2015), “educational jurisdictions around the world have adopted the vocabulary of inclusive education (it is a flawed vocabulary, but it is distinctive and recognisable) and invested significant resources … into making schools more inclusive … [however] exclusion remains a real and present danger.”

A useful way of understanding inclusion is to consider the polar opposite, exclusion. Inclusive education can be viewed as a process of removing barriers to participation. In other words, identifying that which excludes individuals or groups of children from schooling with their peers and then ensuring that those barriers are eliminated (Mittler, 2012). Such an
understanding recognizes differences in groups and individuals, while at the same time promoting access to high quality education for all children in contexts where they learn together.

Traditional Western models of schooling, adopted throughout the world to varying degrees, have struggled to adapt to an inclusive approach (see, e.g., Loreman et al., 2016; Sharma, Loreman, & Macanawai, 2015). This is probably because the models used were never conceived to include all learners in the first instance and in some cases have been out of touch with the nuances of local cultures. Initially schools were largely for those who could either afford to attend, or who were particularly well suited to them, or both. They were not designed for children on the margins of society for whom work or some other form of occupation were more likely options (Greenleaf, 1978). In this respect schools have always been conceived as elite institutions and in many ways remain so today. The special education system was developed for a variety of reasons; however, the result has been that children with disabilities tend to be separated into far less elite contexts for their education. This is not to say that many well-intentioned people did not create and work in special education systems (and still do today), but rather that the premise of special education is that of segregation, whether it be based on the idea of providing a more appropriate education, or protecting marginalized groups from the realities of mainstream schools.

In order to be inclusive and to avoid segregation, all school contexts can become more responsive to children with a diverse range of abilities, cultures, genders, religions, and other situations and issues that present in the classroom. In order to do this a key area in which they must respond is that of pedagogy. Pedagogy is about how teachers teach and how learners learn, and is a fundamental ingredient in any successful inclusive approach. Without effective pedagogy we have no operative method of education and, without purposeful and effective inclusive pedagogy, we have no basis for meaningful inclusion. The purpose of this article is to explore inclusive pedagogical approaches that may be useful and that have been shown to be adaptable regardless of context.

**Inclusive Pedagogy as Derived From Special Education Practice**

Snyder (1999) argues that the “inclusion movement has primarily been a special education movement” (p. 175). This is an accurate description with respect to the development of inclusive pedagogy, which has taken much from special education. Consider one example, Individual Education Plans (IEPs), initially developed for use in segregated special education classrooms. While they are currently drifting slowly out of favor in some areas of the world, IEPs are still used today in many mainstream contexts with the intent of promoting the inclusion of children with disabilities, language learning, behavior, or other issues. In this way a special education practice has found its way into so-called regular schools. It has been found, however, that IEPs are problematic when it comes to inclusive pedagogy. If used judiciously they may be helpful in some circumstances; however, all too often they serve to place children on a different path of study from that which their peers are able to engage in, ultimately perpetuating the sort of segregated approach they were once thought to be able to
help resolve (Andreasson, Asp-Onsjö, & Isaksson, 2013). The process of transferring special education pedagogical practices to inclusive contexts, if we engage in this process at all, must be done thoughtfully and always with the awareness that such practices were nurtured in segregated environments and may themselves serve to perpetuate segregation.

Drawing practices from special education into more inclusive contexts has, however, not been entirely problematic. Where IEPs and other such practices and tools have been helpful in the development of inclusive pedagogy is in drawing attention to the idea that a single “one size fits all” course of study is not helpful when trying to meet the needs of a diverse range of learners, and that attention needs to be paid to individuals as opposed to a purely theoretical class of learners in which no form of significant diversity exists. In recognition of this, pedagogies aimed at addressing the needs of all learners that minimize or eliminate the singling out of individuals for special teaching have been developed (see Forlin, Chambers, Loreman, Deppeler, & Sharma, 2013). The most familiar of these approaches include Universal Design for Learning (UDL) and Differentiated Instruction (DI). However, new approaches continue to be developed that are also worthy of attention, such as Florian and Spratt’s (2013) Inclusive Pedagogical Approach in Action (IPAA) framework. What these approaches have in common is their general lack of prescription. Unlike the behaviorist approaches previously favored by special educators, practices that spell out precise processes and schedules for teaching (such as is the case with the use of task analysis, for example), the majority of inclusive pedagogical approaches are based on principles and strategies that the teacher must then adopt and adapt to the situation. This requires more of teachers in terms of professional skill, judgment, adaptability, flexibility, and willingness to grow as professionals. The performance expectations of teachers are raised, which in and of itself can be viewed as another positive outcome of inclusive teaching.

A Critical Lens

Given that the history of inclusive pedagogical approaches has been marked by the influence of special education, the application of a critical lens when examining inclusive pedagogies is important. This can help ensure that approaches that perpetuate segregation do not find their way into settings that are trying to be inclusive. Any suggested pedagogical approach can be deconstructed through a research method known as critical discourse analysis. Critical discourse analysts are “interested in the ways in which texts of different kinds reproduce power and inequalities in society” (Perakyla, 2005, p. 871). Critical analysts extend their work beyond texts to include discourses in general, which can be interpreted as examining verbal, visual, and other types of discourse in addition to that which is written. Methods of critical analyses range from fairly basic and unrefined examinations of texts and discourses that can be conducted by most people, to highly complex deconstructions that require a significant degree of training and experience on the part of the person conducting the study. Factors emphasized in critical analysis may include the following:

- Making problematic that which is taken for granted.
- Outlining beliefs and assumptions upon which thinking and acting rest.
• Uncovering ideologies, roles, and institutional influences on thinking and acting.
• Reflecting on how people see themselves in relation to politics, religion, class structures, etc. (Rothe, 2000, p. 56)

With reference to examining inclusive pedagogy, it is possible to apply Rothe’s ideas by asking the following questions, among others.

1) What is being taken for granted in the pedagogical approach under consideration? What is missing from the approach?
2) What assumptions and beliefs form the basis of the pedagogical approach? For example, is there a bias toward a particular theory of learning such as social constructivism, and if so is this helpful or not helpful?
3) In what ways is the pedagogical approach influenced by the traditional classroom format of teaching and learning? What are the roles of the teachers and learners?
4) Does the approach adequately respect culture, religion, and other areas of diversity and allow children to express their particular orientation? What impact might it have on the identity of a learner?

The asking of these and similar questions with respect to inclusive pedagogy, even in a fairly rudimentary way, can assist educators to evaluate the merits and suitability of an approach with respect to their context and personal views. This can be especially effective if done in collaboration with teaching colleagues so that the various issues can be explored from a range of viewpoints through dialogue. The reader is encouraged to apply a critical lens to a reading of the various inclusive pedagogical approaches described below.

Inclusive Pedagogical Approaches

Universal Design for Learning (UDL)

UDL is a philosophy of education intended to provide access to learning and success for all students (Sokal & Katz, 2015). The Centre for Applied Special Technology (CAST) model of UDL espoused by Rose, Gravel, and Gordon (2014) is based on three principles that include (a) multiple means of engagement, (b) multiple means of representation, and (c) multiple means of action and expression. Because UDL is principle based it is inherently flexible and adaptable to local classroom contexts and circumstances.
The first principle, *multiple means of engagement*, advocates the presentation of a variety of ways for students to become involved in the learning. The facilitation of multiple means of engagement involves discerning student traits and catering instruction to suit the wide variety of interests, abilities, learning styles, etc., that are present in a classroom. This is all done in order to produce purposeful, motivated learners. This principle, therefore, falls very much in the affective and motivational realm of pedagogy, dealing with student motivations, beliefs, self-efficacy, self-expectations, and individual autonomy.

Under this banner, Meyer, Rose, and Gordon (2016) highlight the need to provide students with options for self-regulation, including the promotion of expectations and beliefs that optimize student motivation. Teachers are tasked with facilitating personal coping skills and strategies along with a student’s ability to reflect on their own performance and assess their own work. Second, they stress the need for the provision of options that encourage students to sustain effort and persistence. This involves providing very clear goals and objectives, challenging students through increasing demands as their capacities and resources increase, fostering collaboration through group projects, and increasing feedback when mastery-oriented objectives have been met. Third, Meyer and colleagues recognize that options for what they refer to as “recruiting interest” must be provided. Students must be given choices with respect to the learning they are to engage in. This should then make the learning more relevant and, therefore, enhance motivation. The work of a teacher, then, is to ensure that the student does not become distracted from the task and that she is always set up for success.

Rose and colleagues’ (2014) second principle of UDL relates to the provision of *multiple means of representation*. This principle revolves around communication and the need for both teachers and learners to consider how to best communicate to groups with a variety of different communicative styles and receptive capacities.

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**Figure 1**: The CAST model of UDL (Rose et al., 2014).
Meyer and colleagues (2016) note that teachers should provide a variety of options for comprehension. This might mean supplying further background knowledge to students, or helping them to recall prior learning. It involves assisting learners to understand the main ideas through highlighting salient aspects of a communication, and guiding the processing of communication to ensure that what is intended is being properly understood. Second, they advocate for providing options for language and mathematical expressions and symbols. In large part this amounts to clarifying vocabulary, expressions, and symbols to ensure that they are well understood by the learner. It involves the decoding of information that is presented. As an example, a teacher may employ the “herringbone” technique where who, how, why, what, and where questions are plotted on a visual diagram. Third, the provision of options for perception is important. This involves a customized presentation of information as required, and a reliance not only on verbal-auditory forms of communication, but also visual, tactile, etc. Each of the five senses may be employed here in an effort to produce a holistic style of communication.

The third principle of UDL relates to the provision of multiple means of action and expression (Rose et al., 2014). This is about fostering goal-directed learning that employs strategies best suited to the individual learner.

Under this principle Meyer et al. (2016) recommend that teachers provide options for executive functions, such as working with students as guides in goal setting, planning, and the development of learning or task-oriented strategies. A teacher should also help students to develop capacities and strategies for monitoring their progress. Second, they suggest the provision of a variety of options for expression and communication. This involves the use of multiple modes of communication including but not limited to visual, written, and verbal communication. This is built on the notion that different people optimally receive and transmit information in different ways. Fluencies in terms of various communicative modalities can be built: for example, enhancing listening and verbal skills, or improving comprehension and construction of written work. Third, options for physical action, or perhaps more accurately reaction, are recommended. This involves the provision of a variety of methods of response to communication, including a variety of tools such as assistive devices for those with disabilities.

While UDL is accepted among many practitioners and scholars as a sound approach, reliable empirical research on its effectiveness is lacking (Edyburn, 2010; Rappolt-Schlichtmann, Daley, & Rose, 2012). While there is some support for it at the K-12 level, a significantly higher amount of supporting research for the use of UDL in postsecondary education is apparent. This will need to change if the version of UDL recommended by Rose and colleagues is to have longevity in the K-12 education system.

The UDL model proposed by Rose and colleagues (2014) provides a process under which the needs of a wide variety of learners may be met in a single classroom or learning situation. It is not only for students with disabilities, but rather is applicable to all students, providing for those who are gifted in particular areas equally as well as for those who may still be
developing in those areas. At the heart of this model is a process involving promoting personal learning traits, communicating effectively, and providing a variety of options for the completion of goal-directed tasks.

While the Rose and colleagues (2014) CAST UDL model is the most well known, there are other frameworks that complement and/or re-frame CAST. One of these is Katz’s (2012) Three-Block Model of UDL. Katz’s model builds on the CAST work, incorporating it into a middle “block” that is bookended by socioemotional learning (Block 1) and systems and structures that support the process (Block 3).

![Katz’s (2012) 3-block model of UDL.](image)

**Figure 2:** Katz’s (2012) 3-block model of UDL.

Block 1, *Socioemotional learning*, involves “… developing schools that are compassionate learning communities in which all students feel safe and valued, and which give them a sense of belonging” (Katz, 2012, p. 23). This is presented as first in the sequence because of its fundamental importance in supporting blocks 2 and 3. It involves helping students to build a strong and positive self-concept, educating all students (and staff) to value diversity, and engaging in classroom management techniques that are democratic and respectful, such as collective problem solving and increasing student ownership and engagement.

Block 2, *Inclusive pedagogy*, draws heavily on the CAST model and advocates for the use of multiple means of engagement, representation, and action and expression. Katz recommends the use of backward design (Wiggins & McTighe, 2006) in developing instructional plans, and the organization of curricula into thematic units that are then sequenced according to a logical framework (for example, conceptually or perhaps seasonally). The use of Bloom’s Taxonomy in creating questions for inquiry is recommended in order to “… allow students to take their learning to their best level” (Katz, 2012, p. 72).
Block 3, *Systems and structures that support the process*, involves examining and changing the “big picture” of how we educate children. This block recognizes the importance of examining and changing school and school systems structures and policies that might lead to exclusion of some children. According to Katz (2012), “Creating inclusive learning communities requires changes to educational policy, budgeting, staffing, training, and interactions with communities—indeed, a major reworking of the whole system” (p. 24).

Katz’s Three-Block model offers a different perspective on UDL, while at the same time honoring, incorporating, and in no way contradicting the key work of David Rose and colleagues in this area. The effectiveness of this model is currently the subject of ongoing research in Canada by Katz and colleagues. Sokal and Katz (2015) conducted a study involving 183 students in 10 Canadian schools and found that the three-block model of UDL had a positive impact on students’ perceived intellectual engagement with learning as well as on active learning and peer interaction. They concluded that when compared to students in classrooms that used traditional methods not associated with the three-block model of UDL, Katz’s model was superior in terms of fostering the social and intellectual factors of engagement with learning. An earlier study by Katz (2013) involving 631 Canadian students yielded similar results with respect to student engagement, with the additional finding of improvements in both student autonomy and inclusivity in classrooms that adopted the Three-Block Model of UDL as compared with those that did not. From the perspective of teachers, Katz (2015) found that a group of 58 Canadian teachers who had adopted the Three-Block Model of UDL felt that this model had improved their practice and self-efficacy perceptions related to inclusive education, as well as reducing their workload and increasing their job satisfaction. They also identified some barriers to the implementation of the approach, which they believed could be overcome with time for collaborative planning, resources, professional learning communities, and education regarding the approach for the school and wider community.

**Differentiated Instruction (DI)**

Techniques involved in DI are seen by some as being a subset of the UDL approach, and indeed the two approaches are perhaps closely connected in some respects. However, there is some difference. While UDL aims to provide all students with support and access to learning through the same (or similar) strategies, and to some degree operates more at the design phase of instruction, DI involves providing different levels or instructional techniques for different individual students. According to Loreman, Deppeler, and Harvey (2010) DI refers to “… pedagogical techniques used in the classroom to deliver the appropriately designed curriculum to a wide range of learners” (p. 141) while De Jesus (2012) adds that “Differentiation is the practice of modifying and adapting, materials, content, student projects and products, and assessment to meet the learning needs of students. In a differentiated classroom, teachers recognize that all students are different and require varied teaching methods to be successful in school” (p. 6).
The adoption of differentiated instructional strategies came about as a response to some of the disadvantages inherent in the traditional approach to teaching in classrooms. The type of uniform delivery typically associated with traditional models was often ill-suited to students with a diverse range of backgrounds and abilities. It was not responsive to individual needs and preferences, with instruction typically focusing on rote memorization with little emphasis on critical and higher-level thinking skills (De Jesus, 2012). There are a multiplicity of DI techniques, including but not limited to allowing extra time on tests and assignments, permitting different ways of taking tests, extension activities, adapting assignments for individual students, cooperative and collaborative learning in pairs or groups, project-based learning (individually or in pairs or groups), and a focus on Gardner’s (1983) Multiple Intelligence Theory.

Sousa and Tomlinson (2011, p. 9) highlight a series of “non-negotiables” with respect to the implementation of DI. These include the following:

1. The learning environment must invite learning. That is, it must be safe, challenging, and supportive for each student.
2. A teacher should be able to clearly delineate what constitutes essential knowledge, understanding, and skills in a content area, unit, and lesson.
3. The teacher should persistently assess student proximity to the essential knowledge, understanding, and skills throughout a segment of study.
4. When ongoing assessment data indicate that a student is confused about, has learning gaps in, or has mastered essential knowledge, understanding, or skills, the teacher should use that information to plan upcoming instruction. The idea is to address those needs—whether for remediation or acceleration—that, if unattended to, will most likely impede student growth.

Although DI presents in many varied forms in classrooms throughout the world it has been found to be an effective instructional approach. However, due to the sometimes individualized nature of the approach, large-scale studies are in the minority, with many focusing on single cases or a small number of cases. There are, however, some noteworthy larger-scale studies that speak to the efficacy of DI. Goddard, Goddard, and Minjung (2015) examined grade 5 mathematics and reading achievement in Michigan schools, with a particular emphasis on norms for practice consistent with DI. Compared to schools that did not engage in DI practices they found that those schools that did were positively and significantly associated with differences in student achievement in both mathematics and reading. A study in Cyprus by Valiandes (2015) involving a sample of 24 teachers and 479 grade 4 students yielded similar conclusions, with the use of DI in mixed-ability classrooms producing positive effects on student achievement. In Turkey, Bal’s (2016) study involving 57 students found that improved grade 6 student achievement in algebra was correlated with the use of techniques associated with DI, concluding that “applying [a] differentiated teaching approach within class increase[s] students’ mathematical thinking and mathematical achievement positively” (p. 199).
The DI approach, however, is not without critics. Pappano (2011) argues that there is a gap between theory and practice, with some students expressing discontent when they noticed that their assignment was different to that of other children even as the approach was implemented by an experienced teacher in the area. She also points out some of the dangers of a convoluted curriculum (some students making papier-mâché models in history classes) and the pressures on teachers to target and meet the needs of all. Further, Florian (2015) argues that:

> While it has become self-evident that differentiated approaches to whole class teaching are needed to accommodate individual differences between learners, when implemented within the bell-curve structure of schooling, such approaches can create problems. This is because the discourse of individual differences relies on the logic of exclusion whereby differentiated teaching for some is the process by which all are “included.”

(p. 13)

Florian’s argument undermines the view of DI as being an inclusive approach, the critical point being that in order to cater for individual differences one must first search for those on the margins and single them out, a practice that might be regarded as alien to the task of including all.

**The Inclusive Pedagogical Approach in Action Framework (IPAA)**

One of the more recent contributions to the area of pedagogy for inclusive education that is garnering some attention is the IPAA developed by Florian and Spratt (2013). The underlying premise of the IPAA differs from that on which approaches such as DI are based. With DI, which Florian (2015) views as a conventional approach, instruction is directed at a level that might be suitable to most learners, while modifications are made to support those who require it. As is the case with UDL, the IPAA seeks to provide rich learning experiences that are accessible to all learners. This responds to the criticism of Pappano (2011) that DI singles out and stigmatizes some students who notice that they are doing different work from other students, and Florian (2015) who notes that in differentiating we identify those on the margins first—an activity that inevitably leads to exclusion. The goal of the IPAA is to promote the full participation of all students in the classroom community by extending what is typically viewed as being the scope of the regular school to a greater diversity of learners. Individual differences are acknowledged, but such differences can and should be catered for in the course of everyday teaching and learning. The IPAA is a tool that can be used for gathering and assessing evidence about inclusive teaching and learning practice (Florian, 2015).

Florian and Spratt’s (2013) IPAA framework is based on three broad assumptions, with each assumption being linked to associated concepts and actions. Potential challenges are identified, and finally sources of evidence are outlined.
The first assumption is that difference is accounted for as an essential aspect of human development in any conceptualization of learning. Professionals must therefore reject deterministic views of ability and the idea that the presence of some children will impede the progress of other children. They must also accept that difference is part of being human and believe that under the right conditions all children can progress. The key challenge cited here is the traditional view of ability as being predetermined, largely fixed, and largely unchangeable. Schools are replete with practices that reinforce these views, one of the most common being the widely accepted but largely smoke-and-mirrors practice of psychological testing of students to determine eligibility for special needs funding and service.

The second assumption is that teachers must believe that they are qualified to and capable of teaching all. This involves a commitment to supporting all learners, with the teacher demonstrating his or her self-belief by taking charge of a classroom that truly caters to the needs of all the students present. The dilemmas faced are viewed as dilemmas for teaching rather than as being an inherent problem of the student’s. It is not what a student cannot do, but rather what a teacher cannot teach that is the issue that should be solved. In committing to this style of practice a teacher assumes responsibility for all learners in a class, a habit that has become sometimes compromised by the presence of other professionals and supports that have, in many cases, relieved the teacher of the full responsibility of educating all children.

The third assumption is that teachers continually develop creative and new ways of working with others. True inclusion cannot occur in isolated pockets, but rather requires an entire school community (and even school system) to work together. It also involves teachers ensuring that students work through relationships with one another rather than as isolated units. In doing so the contributions of all contribute to the overall learning that has occurred.

As the IPAA is a relatively new model for inclusive pedagogy it has not yet been the subject of significant research into its efficacy, although there has been some conceptualization regarding implementation if the approach. The model itself was developed as the result of significant research into inclusive pedagogy over many years by Lani Florian and colleagues. One of the major contributing pieces of research to the IPAA was by Florian and Black-Hawkins (2011). They conducted a qualitative study of 11 Scottish teachers who taught across age ranges at two schools. In this study they were able to discern examples of inclusive practice that did not single out particular students, and these practices were more or less in alignment with what later came to be the IPAA. Importantly, some of the challenges that feature in the IPAA were also discerned, in part, through this study. While without question the effectiveness of the IPAA requires further investigation, what can be said is that it has been constructed based on evidence from research, including the study discussed above. A recent text edited by Deppeler, Loreman, Smith, and Florian (2015) contains chapters addressing a variety of school curriculum areas with respect to how the IPAA may be implemented and how it may inform teaching in each of those areas. Such work is conceptual rather than being a presentation of empirical research results, but nevertheless provides a basis for practitioners to implement the IPAA in their schools and classrooms.
Technology and instruction. Technology-assisted instruction is closely linked to UDL in the research literature on this topic as it is often the process by which multiple means of engagement, representation, and action and expression are mediated. In addition, McGhie-Richmond and de Bruin (2015) highlighted the links between technology-assisted pedagogy and the IPPA. Technology is an ever and rapidly evolving field and what is available for students and teachers to use in one year is often outdated and supplanted by newer technologies the next. It is for this reason that the full value of technology in the classroom can only be realized when it is used by teachers judiciously. It must be intentionally, specifically, and carefully employed by teachers (McGhie-Richmond & de Bruin, 2015).

In their comprehensive review of the area, McGhie-Richmond and de Bruin (2015) drew attention to many areas in which technology was assisting in the provision of inclusive forms of instruction. They specifically highlighted the usefulness of technology in formative assessment, mediating and supporting self-directed learning, and assisting in the promotion of collaborative learning. With respect to formative assessment they argued, with supporting research, that “technology-supported formative assessment can provide rapid input to teachers and feedback to students and support teachers’ decisions regarding the pace of instruction and time spent on curricular content” (p. 218). They outlined modes through which this may be accomplished, including via electronic surveys on tablets or computers, or other means.

Next, McGhie-Richmond and de Bruin highlighted the value of technology in mediating and supporting self-directed learning. Citing key studies by Sampson and Zervas (2013), Song (2014), and Song, Wong, and Looi (2012), they noted research evidence that demonstrates that students use their various devices and web-based applications in very different and individualized ways and that the inherent flexibility in terms of the pacing, content, and “on-demand” nature of web-based learning environments can result in a rich, personalized learning experiences. Learning can occur in the classroom and also outside of the classroom.

Third, they noted the ways in which technology can assist in promoting collaborative work for students, and argued that “Digital technologies afford students opportunities to collaborate in conceptualising problems, designing solutions and co-constructing artefacts or narratives” (McGhie-Richmond & de Bruin, 2015, p. 219). There are numerous immersive and collaborative online environments in which students can engage with one another, and such environments and contexts are highly familiar to children who now often grow up engaged in collaborative online gaming at home. These sorts of environments can promote learning about how to work collaboratively with others, as well as foster individual learning. Bacca, Baldiris, Fabregat, Graf, and Kinshuk (2014) conducted a structured review of the literature on augmented reality trends in education, finding that the use of augmented reality in educational contexts resulted in improved learning gains, motivation, interaction, student engagement, positive attitudes, and collaboration between students.

Technology-assisted instruction provides students with a highly flexible, accessible, and collaborative yet at the same time individualized model of delivery. It is, therefore, aligned with the underlying premise of UDL, with an emphasis on “multiple means” of reaching and teaching students, and has also been shown to align well with the IPAA.
Pedagogy for Inclusive Education: Some General Principles from the Literature

Having discussed the most common and evident types of inclusive education pedagogy, UDL and DI, along with a newer model that is garnering some attention, the IPAA, a number of general principles on which inclusive education pedagogy might be based become apparent. These principles, in no particular order, are as follows:

Inclusive pedagogy is about providing for meaningful participation of all learners. Each of the models examined in this article make it clear that inclusive pedagogy does not ignore difference. With DI a frank and pragmatic acknowledgment of difference becomes important at the outset, as adjustments and adaptations are made so as to provide all individual learners with the opportunity to engage in rich and meaningful learning. UDL and the IPAA take a different approach, decentralizing difference and advocating means of teaching that cater to individual differences without necessarily singling out individuals for specific adaptations or modifications in the course of a lesson, as such adaptations and modifications are unnecessary having been anticipated in the overall lesson planning phase. Ultimately, each model shares a common acknowledgment that it is not possible for teachers to simply teach to a class of students as if they are a homogenous group. Diversity is present and must be accounted for so as to ensure an elimination of learners on the margins.

The underlying fundamentals of good teaching are the basis of inclusive education pedagogy. It is clear that the elements of what are currently acknowledged as being important to good teaching are visible in each of the inclusive pedagogical models discussed in this article. Each model relies on formative assessment to build a program suited to individuals in the groups in which they learn, and each model advocates for constructivist and social constructivist models of instruction that involve peer collaboration, goal-directed learning, communication, and teacher guidance. Katz (2012) explicitly mentions the usefulness of employing backward design principles (Wiggins & McTighe, 2006) when employing her Three-Block Model, and such principles have long formed the basis of good classroom planning and instructional delivery. Inclusive education pedagogy is about good teaching practice: practice that assists all students in meeting their potential.

Multiple means of reaching students must be employed for all students. The term “multiple means” forms the basis of how David Rose and colleagues choose to describe the various tenants behind UDL. With UDL the provision of “multiple means” is critical to each step of the process, from promoting student engagement, to representing and communicating, and then on to student action and expression. Similarly, use of Gardner’s (1983) Multiple Intelligence Theory has been suggested as one way of reaching a wider group of learners through DI, as each learner in a class would have strengths in a variety of different “intelligence” areas. The use of technology, linked in this article to the IPAA and UDL, but also very apparent in DI practice, provides students with a wide variety of ways to interact, investigate, check for understanding, and immerse themselves in learning.
Inclusive pedagogy requires teachers to adopt a humble and introspective attitude. The negative impact on teachers in terms of stress and workload has been one of the objections raised to the employment of some inclusive pedagogies (see, e.g., Brackenreed, 2008). Whether or not one is sympathetic to this point of view it must be acknowledged that the adoption of inclusive pedagogical approach does represent new ways of working for teachers, and requires the adoption of different points of view. Many teachers today work in environments where the medical model of discovering what is “wrong” with a student and then trying to “fix” that student is still very influential and present. Instead, the adoption of inclusive pedagogy requires humility: a recognition that if a student is not learning it may be the teaching that is the problem rather than the learner. When teachers can reflect and come to these conclusions they are in a better position to move forward and truly adopt inclusive ways of teaching. Indeed, as Katz (2015) demonstrated, the decision to embrace inclusive education pedagogy can serve to relieve job-related stress for teachers and enhance their feelings of self-efficacy along with improving job satisfaction.

Inclusive pedagogy involves the judicious use of technology. Most teachers did not grow up surrounded by the sorts of technology that the students of today come to school having experienced and so have an obligation to become informed about what exists, what is helpful, what is dangerous, and what is simply pointless. What is evident is that the carefully considered use of technology in the classroom is helpful and is an essential element of inclusive teaching. The opportunities for naturally differentiated, collaborative, and immersive experiences offered by technology are simply too powerful to be ignored.

Areas for Future Research

A number of areas for future research are evident. It is indeed striking that most of the commonly used and accepted inclusive pedagogies are underresearched in terms of their efficacy. While Jennifer Katz is making good progress in researching the 3-Block model, other pedagogies are in need of greater support in research. In particular, the recent development of the IPAA Framework means that there is much to be done in terms of evaluating methods of implementation and general effectiveness. The CAST version of UDL is in a less defensible position, having been conceptualized for longer and yet still suffering from a dearth of studies that demonstrate the impact of the approach. On the whole smaller-scale studies appear to be more prevalent. Larger-scale investigations of each of the pedagogies discussed in this article are therefore needed.

Conclusion

This article on pedagogy for inclusive education has explored some inclusive pedagogical approaches that may be useful and that have been shown to be adaptable regardless of context. It started with an overview of inclusive education before briefly addressing the historical antecedents that have led to the most common forms of pedagogical practice for inclusive education in use today. Following an exhortation to apply a critical lens to any
reading of pedagogical approaches for inclusive education, this article went on to describe some of the most salient models of inclusive education pedagogy, including Universal Design for Learning, Differentiated Instruction, and the Inclusive Pedagogical Approach in Action framework. Research supporting each of the models, or a discussion of the need for further research, was provided in each instance. Finally, a number of general principles with respect to inclusive education pedagogy were offered based on the various models discussed.

It is clear that whatever principles are adopted, more research is required on the effectiveness of various models of inclusive education pedagogy. Of the three main models discussed in this article, only DI might be seen as having been relatively comprehensively researched; and even then there exist some gaps. UDL is reaching a critical point in its development where more research perhaps should and could have been done on the effectiveness of the approach, but this is still not apparent. Katz’s Three-Block Model of UDL is on a good research trajectory and the IPAA is still too new to reasonably expect a large body of evidence to be currently available on its effectiveness.

Pedagogy for inclusive education continues to evolve in line with our views on difference, inclusion, and exclusion. Complex though it might seem at times, what remains a constant is a respect for the learning of all and a desire and a willingness to better cater to the needs of all children via the ways in which they learn and we teach them.

References


Sharma, U., Loreman, T., & Macanawai, S. (2015). Factors contributing to the implementation of inclusive education in Pacific Island countries. *International Journal of Inclusive Education*. Published online (Print publication to follow).


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